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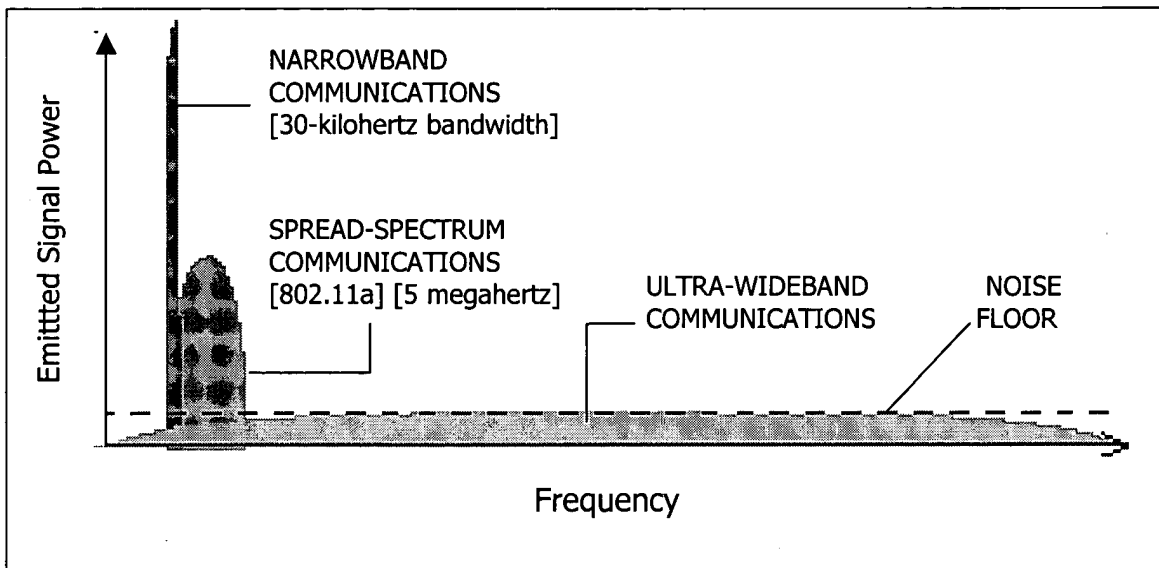


FIG. 1

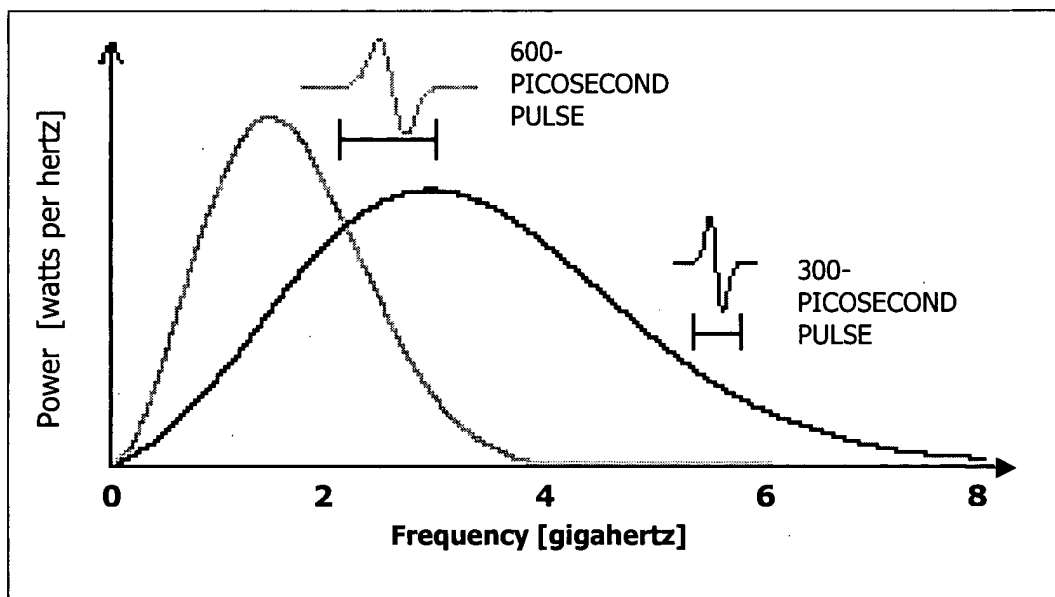


FIG. 2

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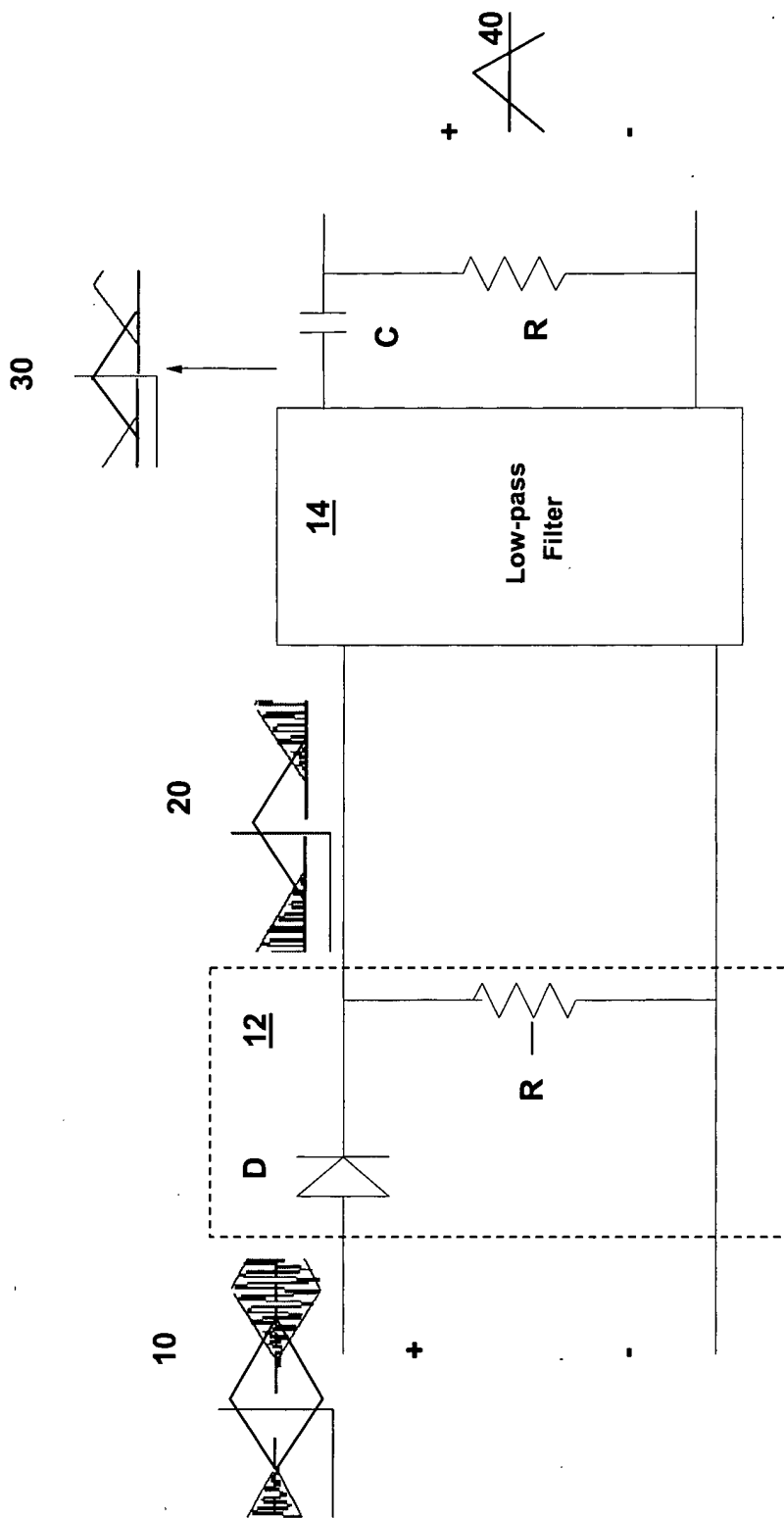


FIG. 3
 PRIOR ART

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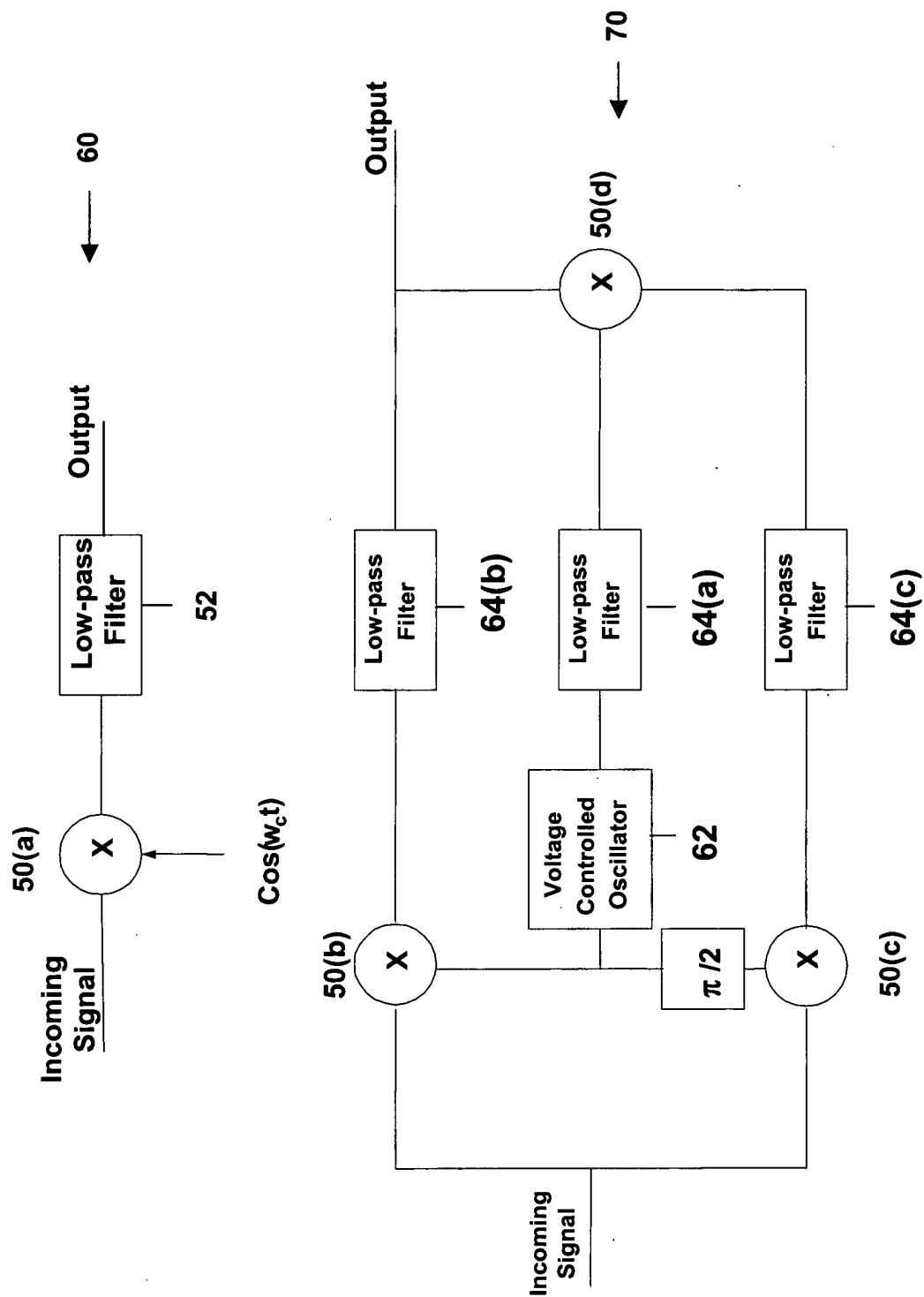


FIG. 4
 PRIOR ART

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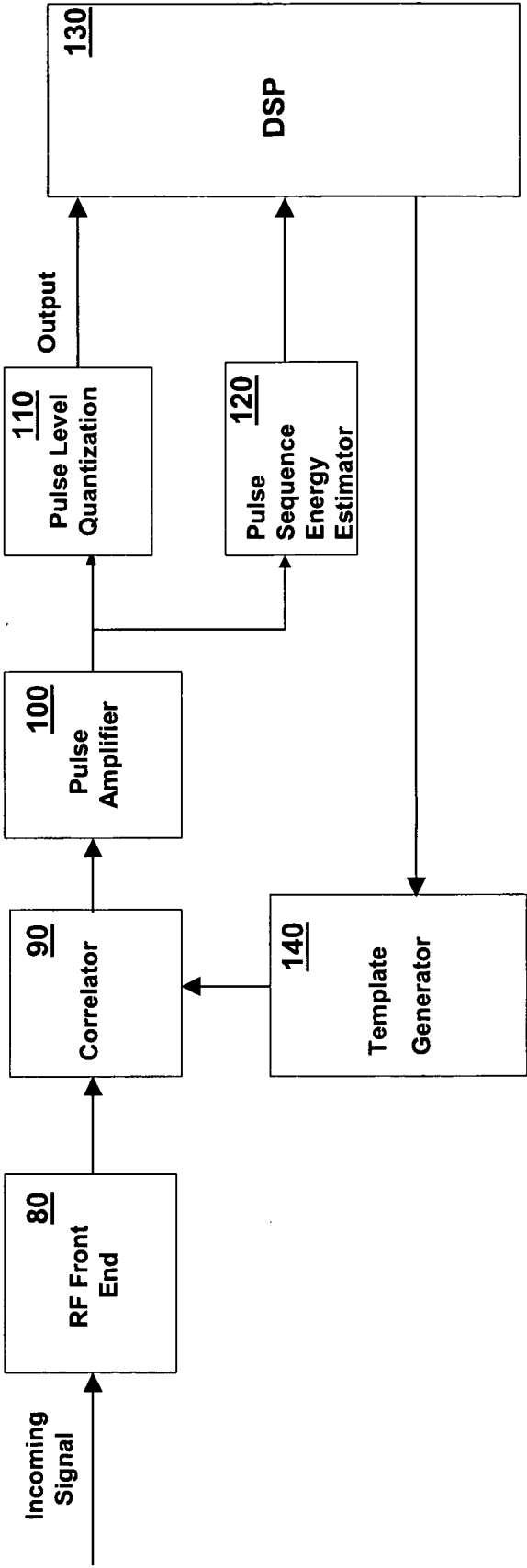
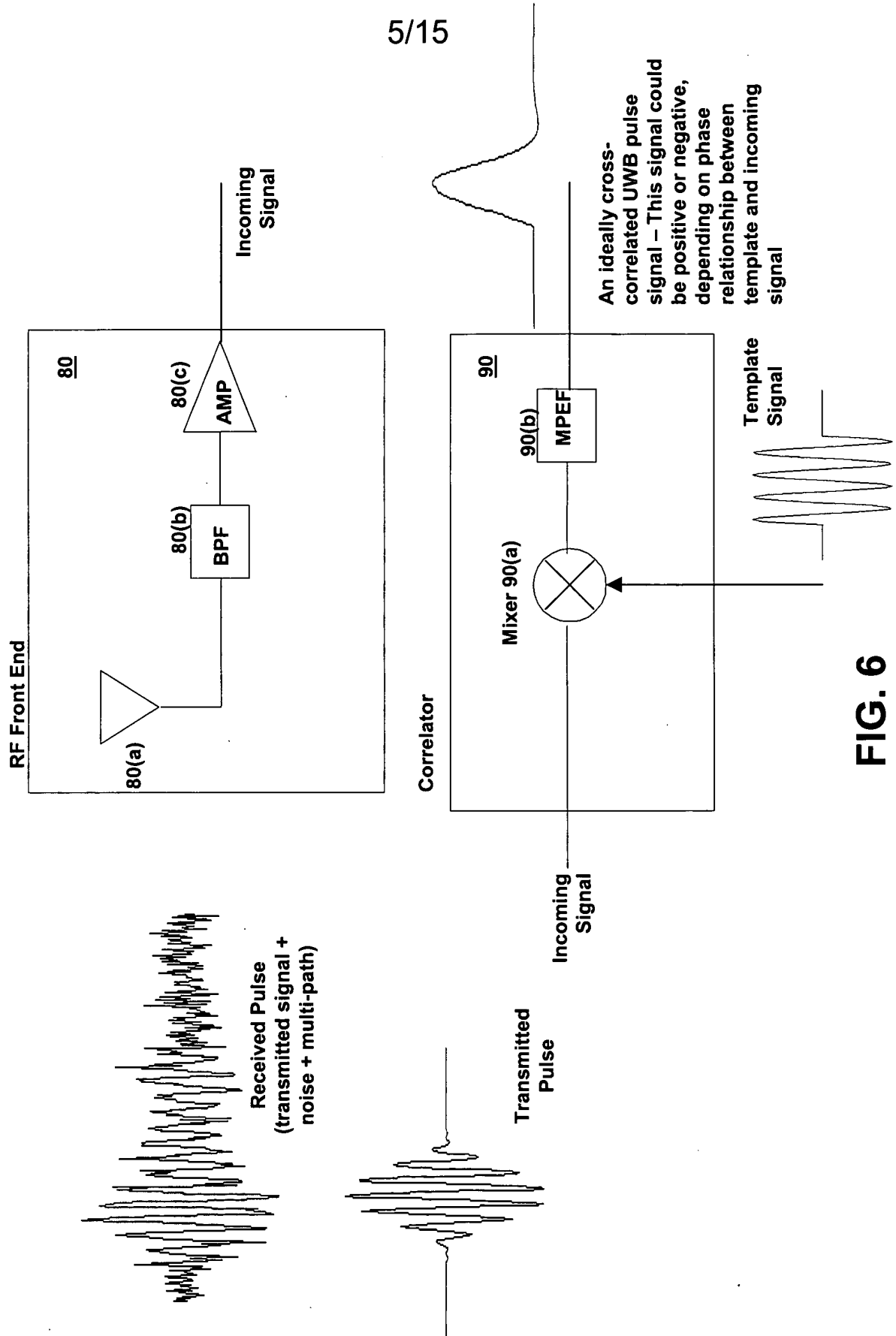


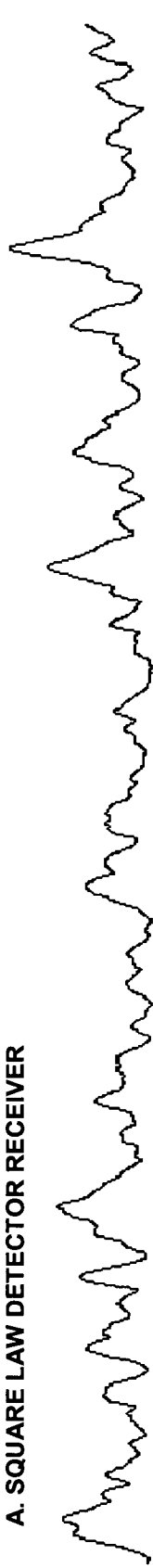
FIG. 5



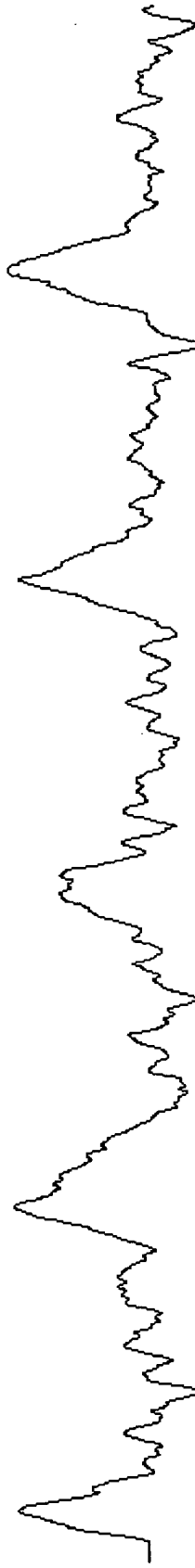
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PERFORMANCE OF DIFFERENT RECEIVERS IN THE PRESENCE OF
WHITE NOISE AND MULTIPATH REFLECTION

A. SQUARE LAW DETECTOR RECEIVER



B. DIRECT CONVERSION RECEIVER



C. ULTRA-WIDEBAND PULSE TEMPLATE CORRELATION RECEIVER
CONSTRUCTED ACCORDING TO ONE EMBODIMENT OF THE PRESET INVENTION

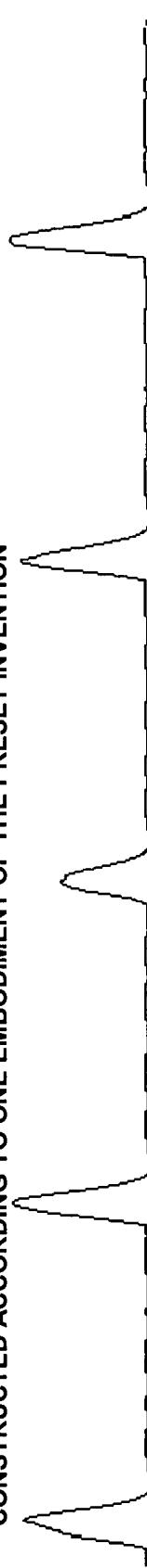


FIG. 7

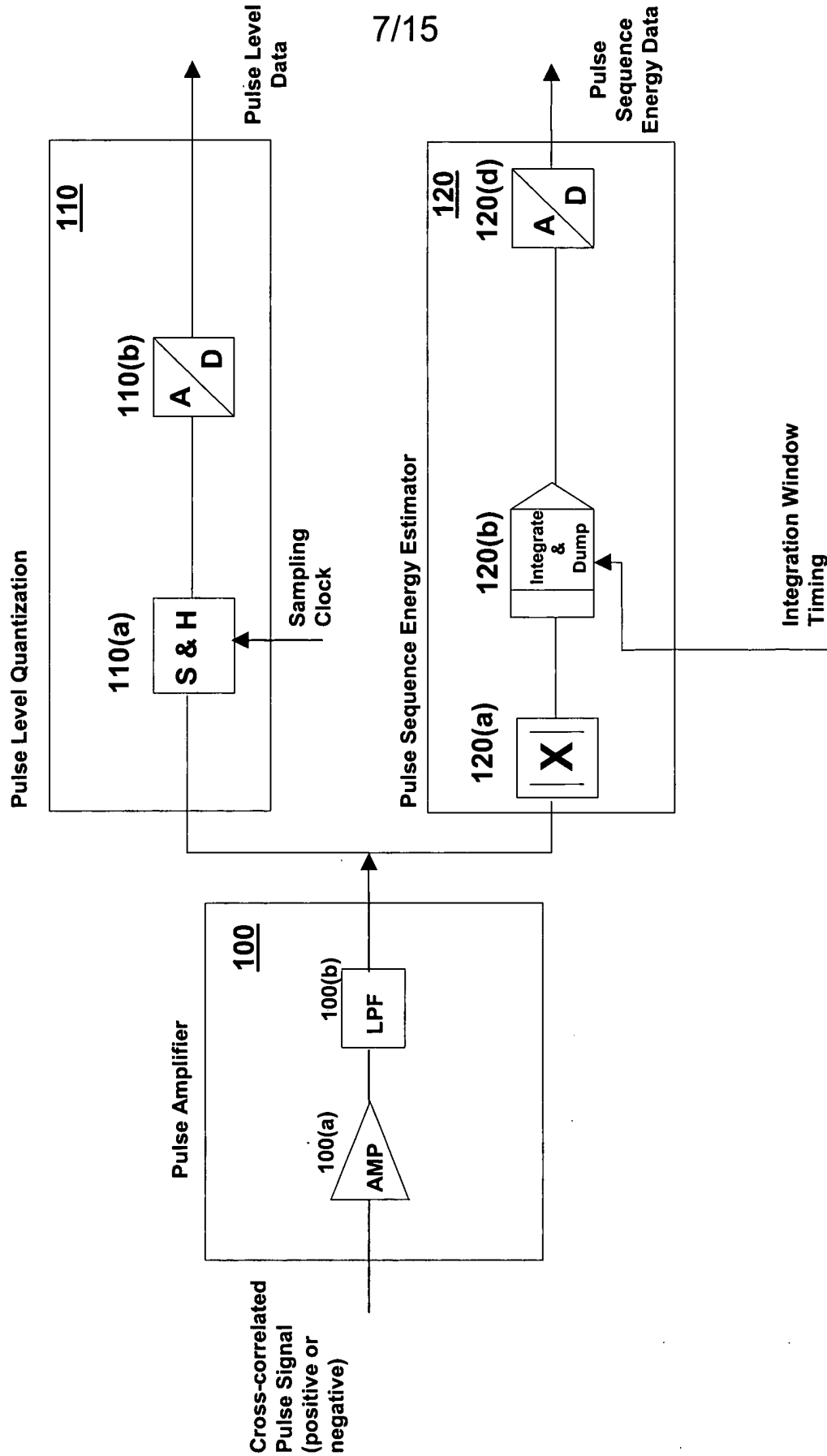


FIG. 8

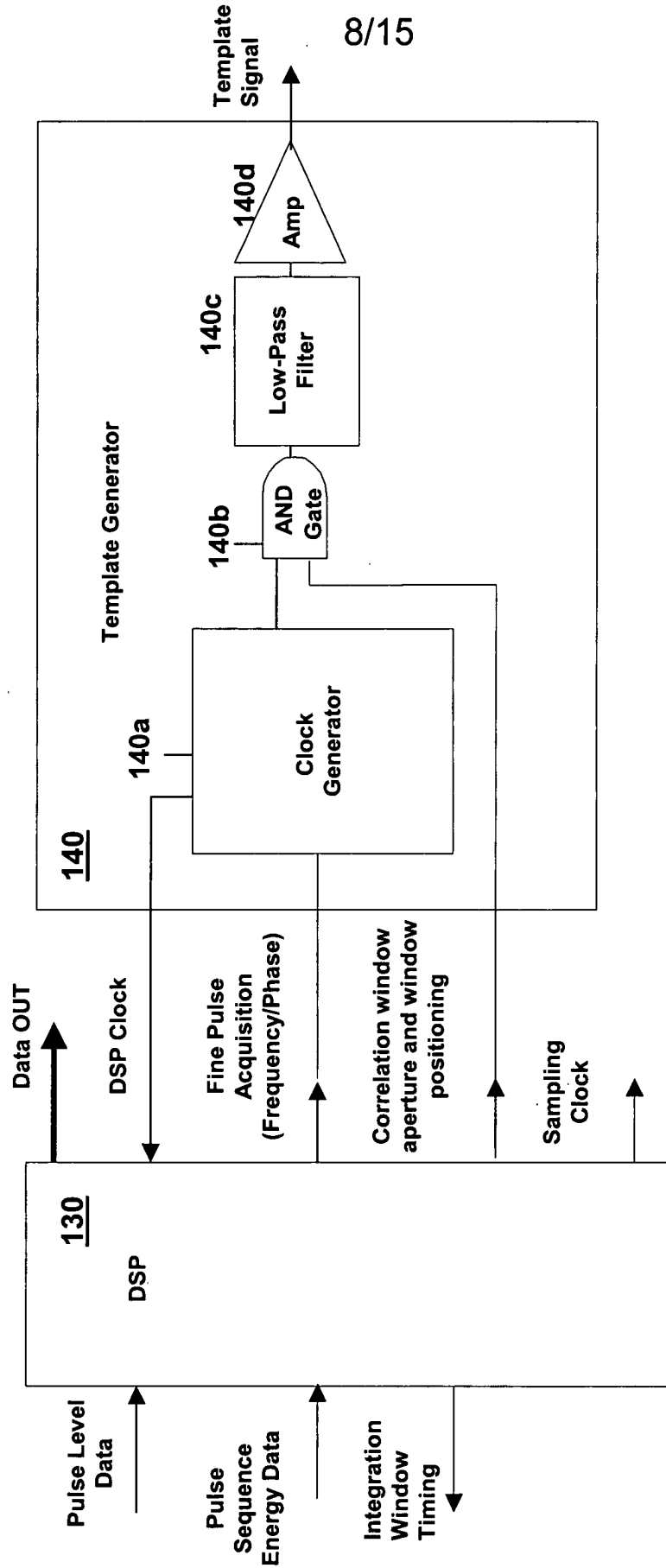
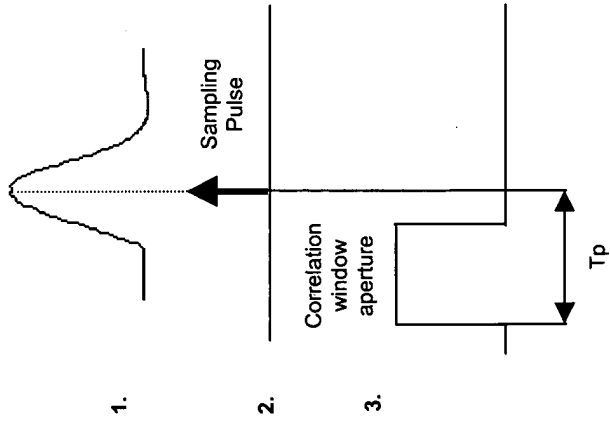


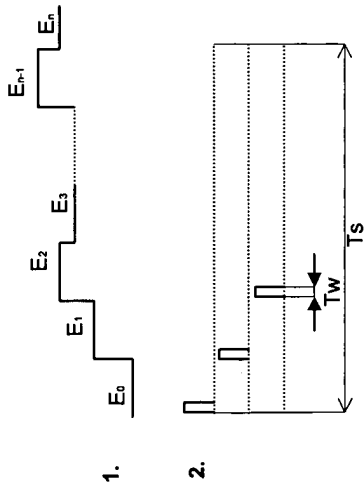
FIG. 9

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10C. PULSE SAMPLING



10A. PULSE SIGNAL COARSE ACQUISITION PROCESS



10B. PULSE SIGNAL FINE ACQUISITION METHOD

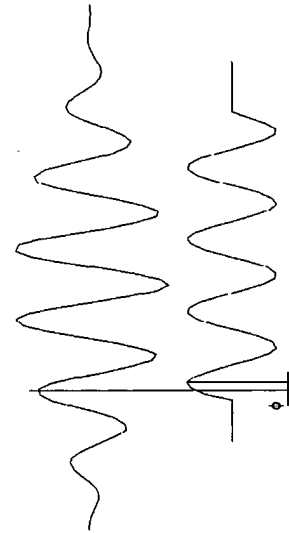
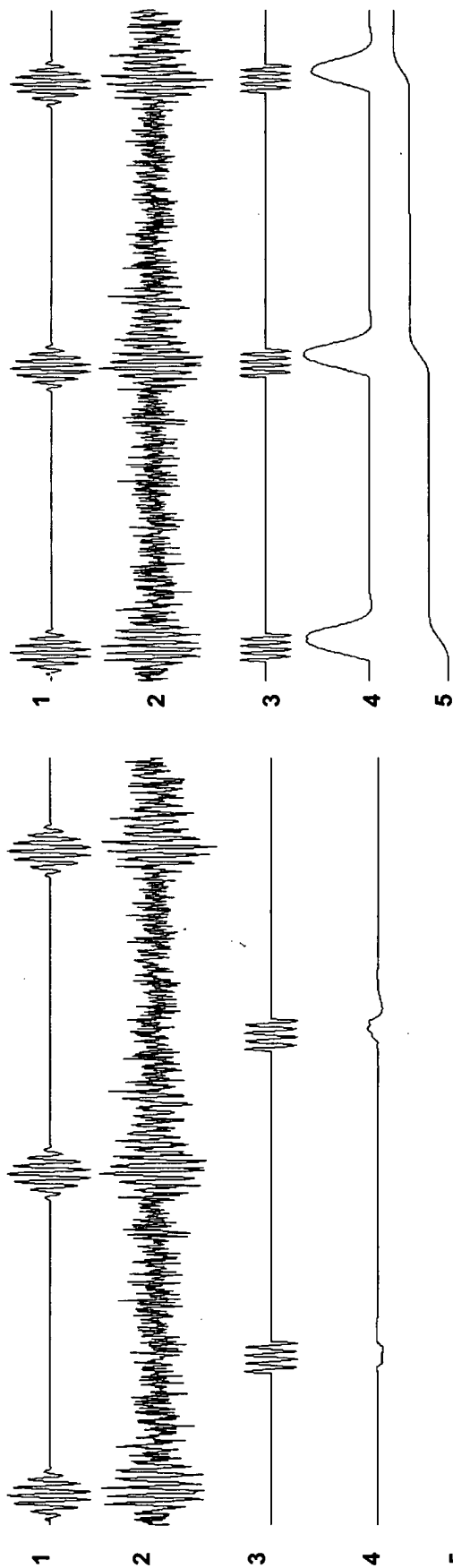


FIG. 10

ULTRA-WIDEBAND (UWB) PULSE ACQUISITION PROCESS IN
 PRESENCE OF MULTIPATH AND NOISE



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B) Weak Multi-path UWB Pulse is Detected - UWB Pulse Sequence
 Energy is increased; Synchronization Loop is Unlocked

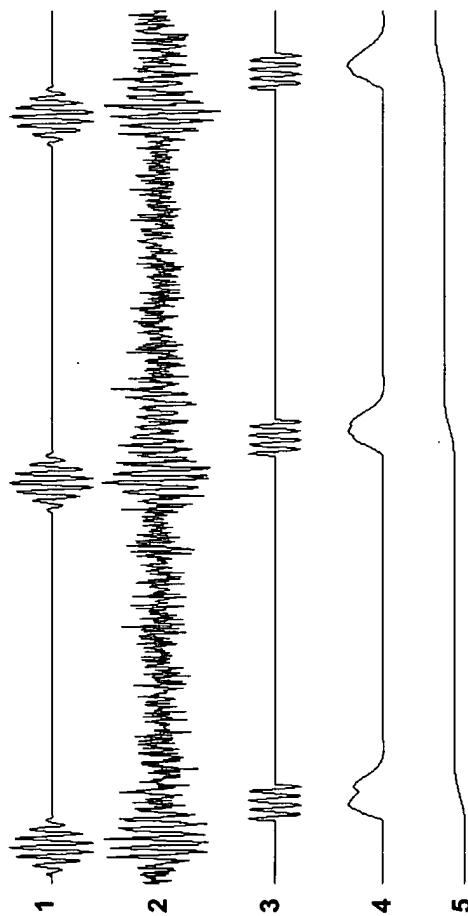


FIG. 11

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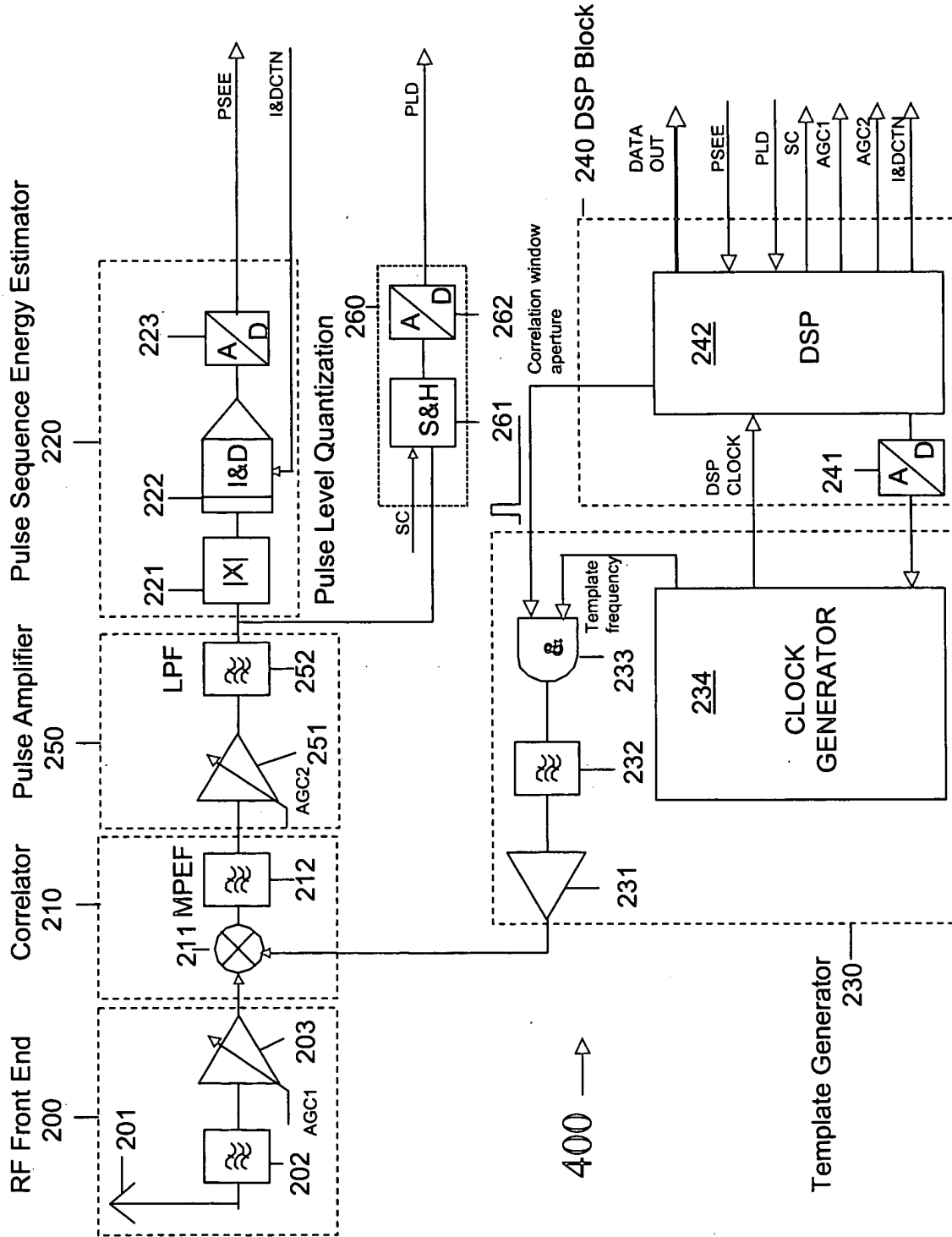
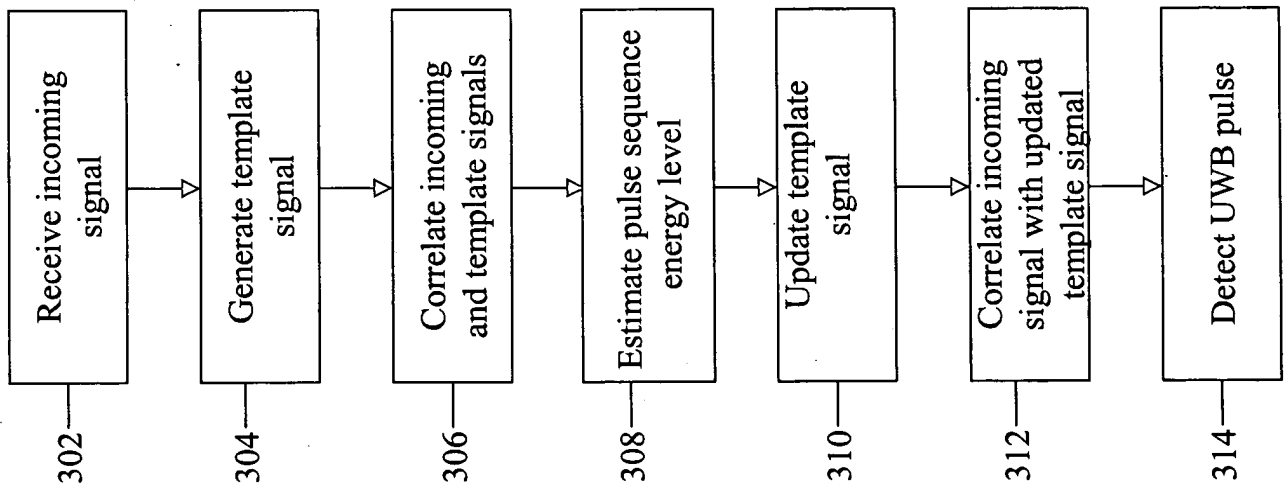


FIG. 12

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FIG. 13



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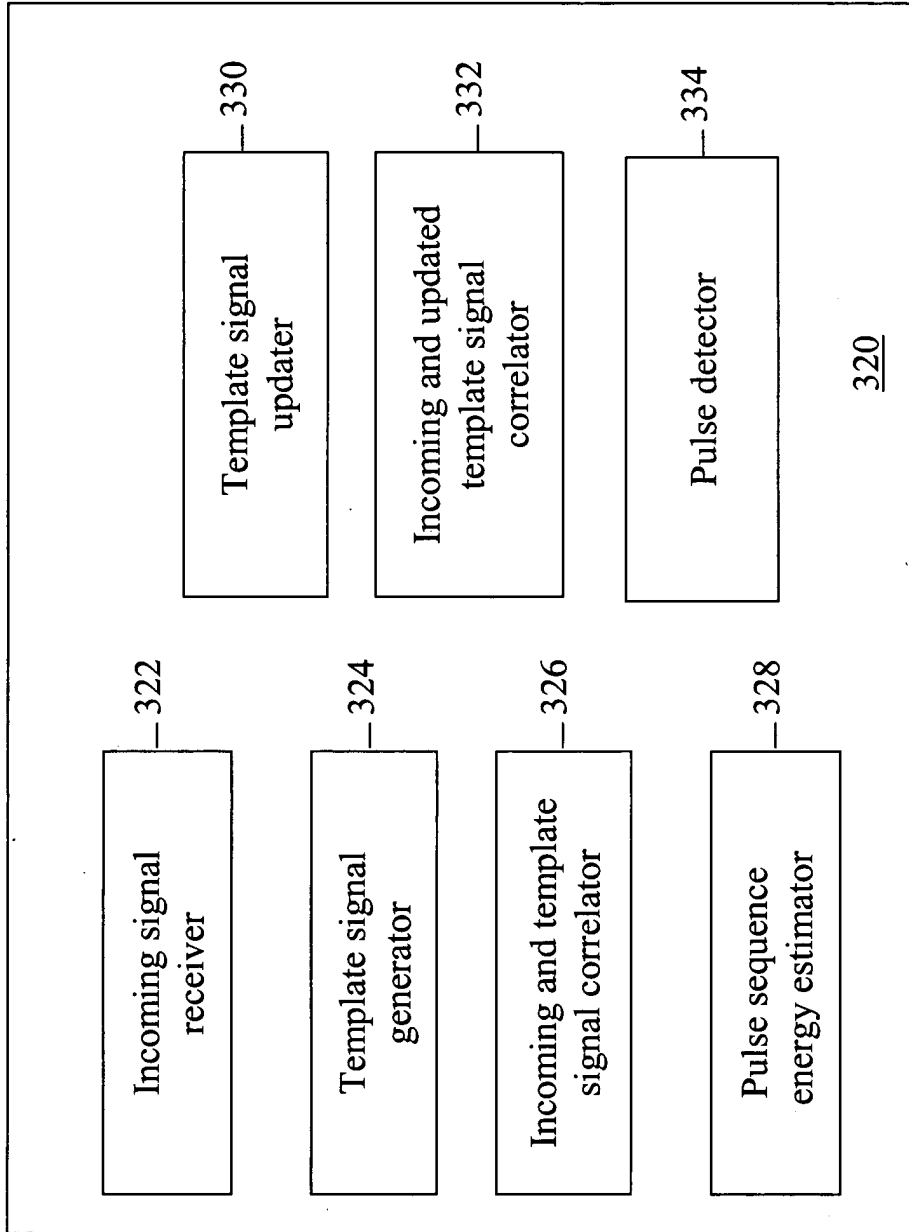
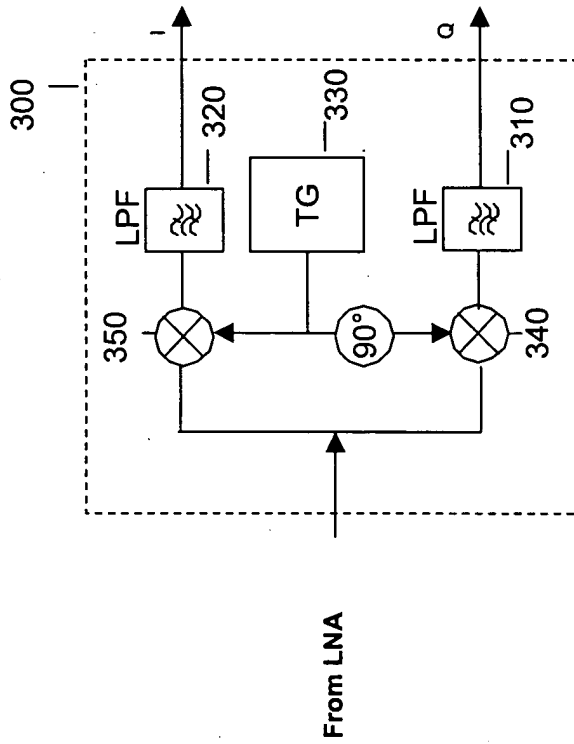


FIG. 14

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15A. Quadrature Correlator- M-ary PSK Detection



15B. Detection of M-ary PPM /OOK MODULATION

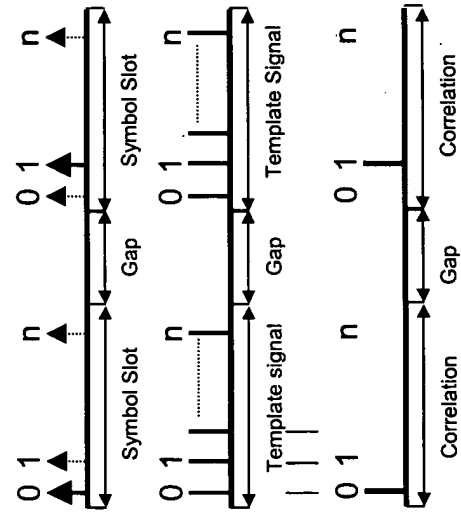


FIG. 15

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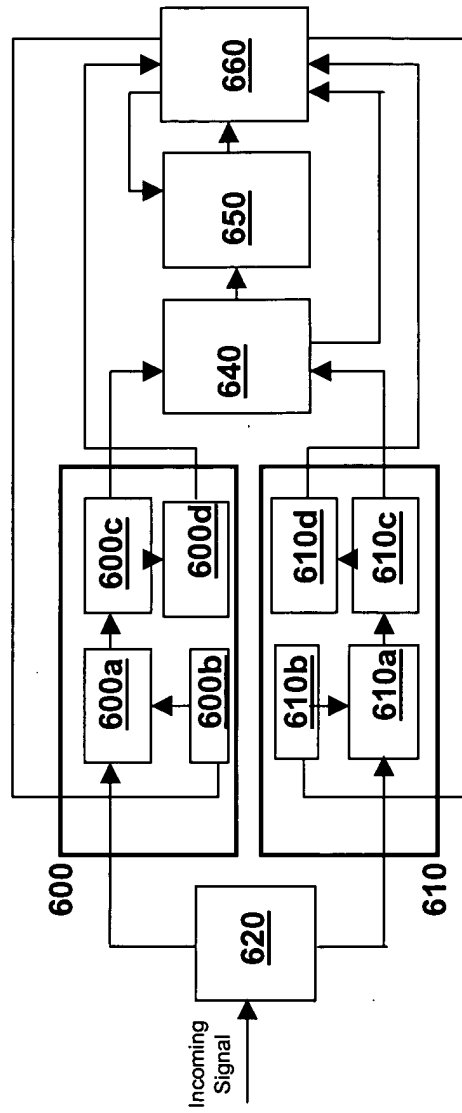


FIG. 16